To S. Amarel

Saul -- Tom and I have given alot of thought to ways in which a rigorous
proposal for augmenting the Rutgers facility could be formulated on the
rationale of further service to SUMEX-AIM as a community; and distingusihed
from what would be the self-evident merits of further support to your own
research project. [The latter, I believe, would have to be given specific
review by an IRG in terms of a separate specific proposal; and I think we
must be very careful --e.g, in anticipation of eventual competitive renewal
-- not to invade the prerogatives of that review procedure under the colora-
tion of a SUMEX-AIM facilitation. And you will note this is a private
message in the light of the obvious delicacy of its substance.]

     We certainly can see some benefits along the lines of the backup
expedient we had discussed; but there are a lot of problems and we wonder
if the full expense, to US as well as to YOU, of staffing so as to maintain
day-to-day plug-to-plug compatibility, as well as of the hardware costs,
is not too much for the anticipated benefits. We have so many problems al-
ready in such areas as LISP version maintenance in maintaining program com-
patibility that we foresee a very substantial burden if we jointly undertake
the obligation of doing this in response to such diverse user groups as
would be involved in Rutgers cum SUMEX AIM. Nor would you want to delegate
the management decisions to SUMEX staff that would be the most efficient wAy
to accomplish this goal.

     Perhaps this is still not impossible; it is after all primarily in
the backup mode that the PERFECT compatibility would have to be implemented;
so that if your charter assured that, on legitimate call from SUMEX-AIM
(the detailed rules for which would be in the hands of AIMEXEC, but such
as to assure that vital demonstrations, clinical applications, report
generation and the like, could be continued at Rutgers during scheduled
SUMEX downtime, and in some measure in response to unscheduled), that
Rutgers would mount the CURRENT SUMEX version of TENEX and of support
files (like the FORTRAN, SAIL and LISP libraries), some more comfortable
latitude might be feasible for specialization of the two systems. Unfor-
tunately, some of these systems are so written that users do not have the
option of calling on one or another alternative; and the software effort
to remedy that stupidity would at this point be prohibitive.

     Rainer Schulz will shortly message you about some measures of the
effort that would be involved in your bringing up TENEX. That should not
be difficult. You will also require probable one fulltime additional per-
son with the resonsibility of liaison with SUMEX, and we may indeed have
to augment our own stAff almost as much for the sAme purpose.

     And then we have to solve the problem of file transfer; DATACOMPUTER
is a possible future option; it is down at this very moment, and it is
obvious that it is not a reliable expedient this year. In all candor, I do
believe that from the SUMEX-AIM perspective, the proposed investment
--- and the probable future costs that will follow with it -- are the most
cost effective use of available funds. [For example, in a year or two, when
we are more heavily loaded, the upgrading of the KI to a KL processor can
probably give us a 2 or 3X increase in thruput at relatively little cost. We
are at a point on the investment-yield curve (taking stafing also into
account) where it makes little sense to distribute the investment into frag-
ments.

     HOWEVER, there is another area where it would be sensible to experimer
with some diversification of service, and the augmentation of your facility

might be a very effective way to go into this, namely if you were to focus
on a totally different mode of community support, e.g., by running TOPS-10
[or its non-TENEX successors] for the benefit of SUMEX-AIM users who are havir
difficulties in adapting their programs to TENEX! We believe many of these
problems will eventually be solved, but some perhaps only at unreasonable ex-
pense compared to just having time available on a TOPS-10 machine. Also the
conversions would be very much facilitated if we could examine the running
code as it was IN FACT being executed under TOPS-10.

        In our opinion, this widening of options to SUMEX-AIM users would be
of greater benefit as a return for augmenting your system, than would be
the exact duplication of SUMEX-tenex. With efficient communication between
our two systems, there may even be occasions when users would run program
segments alternately under TENEX and under TOPS-10 in accordance with the
availability of the appropriate software.